

18. After fulfillment server 16 determines the validity of the request cancellation, it updates the status of each request line-item to "canceled." Fulfillment server 16 then sends the resulting component request cancellations out onto network 20 for processing at the appropriate LFMs 22.

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Process Component ATP Request Cancellations [LFM]

When LFM 22 receives the component request cancellations from fulfillment server 16, it generates and executes the cancellation transaction in the syntax appropriate to ATP server 14 and the associated planning engine. This transaction is most likely an ATP request deletion. When ATP server 14 responds to LFM 22 with a confirmation of the cancellation, LFM 22 updates the status of any locally maintained component ATP request, component quotation, and component promise. LFM 22 generates a component cancellation confirmation and sends it to fulfillment server 16 using network 20.

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Process Component Confirmations [Fulfillment Server]

When fulfillment server 16 has processed and transmitted component request cancellations to LFMs 22, it monitors completion of resulting component cancellation confirmations. In one embodiment, a cancellation confirmation is deemed complete when each component request cancellation has received a component cancellation confirmation. Fulfillment server 16 may note the cancellation in any ATP request 30, quotation 36, and promise 46 maintained at fulfillment server 16. The final cancellation confirmation is generated and sent to client 12 using network 18, terminating the ATP request life cycle.

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**Fulfillment Confirmations Workflow**

Process Component Fulfillment Notifications [LFM]

In one embodiment, system 10 provides an interface protocol between LFMs 22 and ATP servers 14 such that shipment notifications at associated planning engines are proactively identified at ATP servers 14 and sent to LFMs 22. LFM 22 may update the status of locally maintained component ATP request 32 and component

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promise 44 to reflect the fulfillment before sending a resulting component fulfillment notification to fulfillment server 16 using network 20.

Process Fulfillment Notifications [Fulfillment Server]

5        Once acceptance 50 has been suitably processed, fulfillment server 16 monitors for component fulfillment notifications from LFM 22. ATP request 30 is considered fulfilled when each component ATP request 32 has received a component fulfillment notification. A unified fulfillment notification is generated and sent to the requesting client 12 using network 18. When component ATP requests 32 have been  
10   fulfilled, fulfillment server 16 may also monitor corresponding shipment confirmations. When ATP request 30 has been fully shipped, its status is updated and fulfillment server 16 notifies the requesting client 12. Fulfillment server 16 may provide archive capabilities for fulfilled ATP requests 30, which may be configurable to allow client 12 to specify archive parameters such as when ATP requests 30 are to  
15   be archived and the number of periods of request history to be maintained. Archives may be maintained at fulfillment server 16, at one or more locations associated with LFM 22, or at any other suitable location internal or external to system 10.

FIGURE 6 illustrates an example local fulfillment manager 622 for managing ATP data in a distributed supply chain environment. In the illustrated embodiment,  
20   LFM 622 includes a processor 650, a memory 652, a fulfillment server interface 654, a data interface 656, and a database 658. In this embodiment, LFM 622 may include the functionality of LFM 22 as well as the functionality and/or data maintained by ATP server 14. LFM 622 may also include a web server to receive Hypertext Transfer Protocol (HTTP) requests and communicate associated HTTP responses. In  
25   this embodiment, LFM 622 may operate in an electronic marketplace or other suitable environment. Other embodiments of LFM 622, other communications protocols, and/or other operating environments may be used without departing from the scope of the present invention.

Processor 650 executes instructions and manipulates data to perform the order  
30   fulfillment operations of LFM 622. Processor 650 may be any processor suitable to perform order fulfillment functions. Although FIGURE 6 illustrates a single processor 650 in LFM 622, multiple processors 650 may be used according to

particular needs. Memory 652 stores and facilitates retrieval of information used by processor 650 to perform the order fulfillment functions of LFM 622. Memory 652 may, for example, store instructions to be performed by processor 650 and data used by processor 650. Memory 652 may include any hardware, software, firmware, or combination thereof suitable to store and facilitate retrieval of information. Although FIGURE 6 illustrates memory 652 as residing within LFM 622, memory 652 may reside at any location or locations accessible by processor 650.

Fulfillment server interface 654 and data interface 656 are each coupled to processor 650. Interfaces 654 and 656 facilitate communication between LFM 622 and other components of system 10. For example, fulfillment server interface 654 may facilitate communication with fulfillment server 16 over network 20. LFM 622 and fulfillment server 16 may use any suitable communications protocol to communicate over network 20. In one embodiment, fulfillment server interface 654 may be associated with a web server of LFM 622 and may communicate with fulfillment server 16 over the Internet or other suitable network through a web server interface using HTTP messages. Data interface 656 may facilitate communication of data to and from one or more systems used by a supplier or other entity associated with LFM 622. For example, data interface 656 may allow a supplier to upload new information about a product to LFM 622. Data interface 656 may also allow a user to download promises that have been made by LFM 622 or other information stored in LFM 622. In addition, data interface 656 may allow a user to manipulate the information stored in database 658. Interfaces 654 and 656 each may include any hardware, software, firmware, or combination thereof operable to communicate with other components in system 10. Although FIGURE 6 illustrates two interfaces 654 and 656, interfaces 654 and 656 may be combined and/or other or additional interfaces may be used in LFM 622 without departing from the scope of the present invention.

Database 658 is coupled to processor 650. Database 658 stores and facilitates retrieval of information used by processor 650 to perform order fulfillment operations in system 10. Database 658 may comprise any of a variety of data structures, arrangements, and/or compilations suitable to store and facilitate retrieval of information. Although FIGURE 6 illustrates database 658 as residing within LFM